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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/922,097	08/03/2001	John N. Hait	2807.2.20.5	1224

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EXAMINER

SEDIGHIAN, REZA

ART UNIT	PAPER NUMBER
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2633

DATE MAILED: 07/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

09/922,097

**Applicant(s)**

HAIT, JOHN N.

**Examiner**

M. R. Sedighian

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>20040705</u> . | 6) <input type="checkbox"/> Other: _____  |

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1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 2-3, 9-12, and 14-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 2, it is not clear what is meant by "... the first and second information bandwidths fit within a combined information bandwidth, the first and second photonic bandwidths fit within a combined photonic bandwidth, and the combined photonic bandwidth is less than the combined information bandwidth". What does it mean by the combined information bandwidth?? What does it mean by the combined photonic bandwidth??

As to claims 3 and 14-15, it is not clear what it means by "... collocating the first and second carriers within a combined photonic bandwidth less than a combined information bandwidth ...". What does it mean by collocating the first and second carriers within a combined photonic bandwidth which is less than a combined information bandwidth?? What is the combined photonic bandwidth??

As to claim 9, it recites the limitation "the first separated photonic signal" in line 2. There is insufficient antecedent basis for this limitation in the claim.

As to claim 10, it recites the limitation "the first separated photonic signal" in line 2. There is insufficient antecedent basis for this limitation in the claim.

As to claim 11, it recites the limitation "the second separated photonic signal" in line 1. There is insufficient antecedent basis for this limitation in the claim. Furthermore, it is not clear what it means by "... the second separated photonic signal and the third photonic carrier have

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substantially the same frequency, thereby providing a drop/add function by replacing the second separated photonic signal with the third photonic carrier “. What does it mean by providing a drop/add function by replacing the second separated photonic signal with the third photonic carrier??

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 4-10, 12, and 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rhee et al. (US Patent No: 6,606,178) in views of Fischer et al. (US Patent No: 6,301,037).

Regarding claims 1 and 13, Rhee teaches a method for providing a hyper-dense WDM signal (fig. 2), comprising: providing first and second photonic carriers ( $\lambda_1$ ,  $\lambda_2$ , fig. 2); providing first and second information (col. 3, lines 54-63) having respective bandwidths (col. 2, lines 10-13, col. 5, lines 53-54); modulating (42<sub>1</sub>, fig. 2) the first photonic carrier ( $\lambda_1$ , fig. 2) to embody the first information therein, and modulating (42<sub>2</sub>, fig. 2) the second photonic carrier ( $\lambda_2$ , fig. 2) to embody the second information therein (col. 3, lines 56-61). Rhee differs from the claimed invention in that Rhee does not specifically disclose the first and second photonic bandwidths are less than the first and second information bandwidths, respectively. Fischer teaches optical bandwidth of an unmodulated signal can be less than the modulation bandwidth (col. 2, lines 3-5). Therefore, it would have been obvious to a person of ordinary skill in the art at the time of invention to incorporate photonic carrier signals of less bandwidth, as it is taught by Fischer, as

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the carrier signals for the optical data transmission system of Rhee in order to achieve higher bandwidth, improved channel capacity, and an increased throughput for the system. As to claim 13, Rhee teaches providing a combined (45, fig. 2) information bandwidth comprising first and second information bandwidths having first and second information corresponding thereto (col. 3, lines 54-65).

Regarding claims 4 and 16, Rhee teaches launching the photonic WDM signal into a transmission path (30, fig. 2).

Regarding claims 5 and 17, Rhee teaches receiving the photonic WDM signal at a destination (20, fig. 2).

Regarding claims 6 and 18, Rhee teaches the destination (20, fig. 2) is remote (note that the transmission and receiving units are far from each other) from a source of the WDM signal (15, fig. 2).

Regarding claims 7 and 19, Rhee teaches selecting first and second transmission paths distinct from each other (note that signals are received by the receivers along different transmission paths), and separating (60, fig. 2) the first and second photonic carriers (col. 4, lines 4-10).

Regarding claims 8 and 20, Rhee further teaches a third information signal (for example, the data signal that drives modulator 42<sub>n</sub> in fig. 2), a third photonic carrier ( $\lambda_n$ , fig. 2), and modulating (42<sub>n</sub>, fig. 2) the third photonic carrier.

Regarding claims 9-10, as it is understood in view of the above 112 problem, Rhee teaches combining the first photonic signal ( $\lambda_1$ , fig. 2) and the third photonic carrier ( $\lambda_n$ , fig. 2) into a WDM signal (45, fig. 2).

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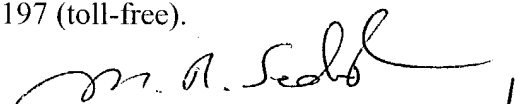
Regarding claim 12, Rhee teaches routing the first ( $\lambda_1$ , fig. 2), second ( $\lambda_2$ , fig. 2), and third ( $\lambda_3$ , fig. 2), photonic carriers to distinct and respective destinations ( $62_1$ ,  $62_2$ ,  $62_n$ , fig. 2).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to M. R. Sedighian whose telephone number is (703) 308-9063.

The examiner can normally be reached on M-F (from 9 AM to 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on (703) 305-4729. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
M.R. SEDIGHIAN  
Primary Examiner  
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